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REMARKS

Claims 27-29, 32-37 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boah (US 4,953,511) in view of R.L. Keneipp Jr. (US 3,307,996). The Examiner admits that Boah does not disclose a film made of polyester, polyetherimide, polyethersulfone, polysulfone or polyimide. That Examiner states that Keneipp discloses employing polyethylene, polypropylene or polyester as an anti-corrosive coating material for a steel conduit which is subjected to a corrosive environment to prevent the steel conduit from corrosion due to a corrosive aqueous fluid, and therefore the claimed invention is obvious. Applicant respectfully disagrees.

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). Keneipp reference is not analogous art to Boah or to Applicant's invention.

Keneipp reference is not in Boah or Applicant's field and is not reasonably pertinent to the particular problem that the Applicant has solved. Boah is directed to a heat exchanger. Applicant's invention is directed toward a heat exchanger. Keneipp is directed to a method of protecting an interior of an oil pipeline 2 from corrosion from the components in crude oil or natural gas (column 1, lines 10 to 17). A slug of resin or epoxy 13 is added to fill pits in the pipeline 2 (column 3, lines 68 to 70). A tubular liner 16 lines the pipeline 2 (column 3, lines 3 to 5). The liner 16 can be made of polyethylene, polypropylene, unsaturated polyester, teflon or saran (column 3, lines 40 to 44). Thus, Keneipp's field relates to preventing corrosion in oil pipelines that transport oil, while Boah and Applicant's field concern heat exchangers that exchange fluid. These fields are very different from each other. Further, each of these fields has specific and unique design criteria and component characteristics, which are not compatible with each other.

Additionally, Keneipp is not reasonably pertinent to the Applicant's particular problem. A reference is reasonably pertinent if, even though it may be in a different field of endeavor, it logically would have commended itself to an inventor's attention in considering his problem because of the matter with which it deals. In re Clay, 966 F. 2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992). As discussed above, Keneipp is clearly not within the field of heat exchangers.

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which is the subject to which Applicant's invention is directed. Further, Keneipp does not logically commend itself to the attention of an inventor seeking to solve problems present in heat exchanger. This is because Keneipp deals with the problem of preventing corrosion in an oil pipeline that transports oil. This is far removed from Applicant's problem relating to exchanging heat.

There is also no suggestion to replace the polypropylene layer of Boah with a layer of polyester, polycetherimide, polyethersulfone, polysulfone or polyimide as claimed. It is impermissible to modify a base reference in a manner that defeats the benefits achieved by the teachings of the reference. Boah teaches the use of a polypropylene layer. To eliminate the polypropylene layer and replace it with a layer of polyester, polyetherimide, polyethersulfone, polysulfone or polyimide would defeat the benefits achieved by Boah. There is no support that using a layer of polyester, polyetherimide, polyethersulfone, polysulfone or polyimide would satisfy all of the problems solved by using the polypropylene layer of Boah or would perform in any way better than the structure already provided by Boah.

The Examiner's rejection is clearly a use of hindsight reconstruction. It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from the references to fill the gaps. The references themselves must provide some teaching whereby the applicant's combination would have been obvious. In re Gorman, 933 F.2d 982, 986, 18USPQ2d 1885, 1888 (Fed. Cir. 1991). There simply is no suggestion in the references, or in the prior art as a whole, that suggests the desirability of using these materials. Nothing in Boah would have led one of ordinary skill in the art to believe that Boah's polypropylene layer was in any way deficient for Boah's purposes or was in need of modification. One of ordinary skill in the art would have found no reason, suggestion, or incentive for modifying the heat exchanger of Boah other than through the luxury of hindsight accorded one who first viewed Applicant's disclosure. This is not a proper basis for a rejection under 35 U.S.C. 103. The claimed invention is not obvious, and Applicant requests that the rejection be withdrawn.

There is also no disclosure, suggestion or teaching in either reference in using a melted polymer to form a film as claimed. The Examiner states that these are product by process claims that are limited by the product itself. The Examiner continues that the heat exchanger as claimed is the same as or obvious from the heat exchanger of Boah. Applicant respectfully disagrees. The

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claimed invention requires a melted polymer that forms a film on a heat exchanger. Boah does not disclose, suggest or teach that the polypropylene layer is applied to the blank 61 as a melted polymer as claimed. The claims recite a material applied in a first state (a melted state) that form a second state (a film). These are structural differences. Keneipp also does not disclose a film formed from a melted polymer applied directly to the pipeline 2. Keneipp discloses a tubular liner 18 that is forced into a pipeline 2 to line the pipeline 2. The tubular liner 18 is therefore solid and cannot be applied to the pipeline 2 as a melted polymer. The claimed invention is not obvious, and Applicant respectfully requests that the rejection be withdrawn.

The Examiner argues that the selection of polyester, polyetherimide, polyethersulfone, polysulfone or polyimide is a design consideration, but supplies no evidence. Applicant cannot respond without the evidence, and thus ask that holding be dropped or evidence supplied. Notably, the relevant question is not whether polyester, polyetherimide, polyethersulfone, polysulfone or polyimide has ever been done anywhere. Instead the question is whether it would have been obvious to employ polyester, polyetherimide, polyethersulfone, polysulfone or polyimide in the claimed environment. Clearly, it would not have been.

The Examiner states on page 3 of the office action that original claim 16 listed the materials as a Markush group, and therefore it appears that the effect of the heat exchanger surface is equally achieved by the use of any material in the Markush group. Applicant respectfully disagrees. The materials set forth in a Markush group ordinarily must belong to a recognized physical or chemical class or to an art-recognized class. (MPEP 2173.05(h)). However, the fact that materials belong to a class does not mean that the materials are obvious equivalents of each other. For example, in the Background of the Invention section, Applicant stated in paragraph 4 that polypropylene has several drawbacks, and the film of the present invention overcomes these drawbacks. Therefore, polypropylene is not an obvious equivalent of the claimed materials. The claimed invention is not obvious, and Applicant respectfully requests that the rejection be withdrawn.

Claims 36-43 are not obvious because neither reference discloses, suggests or teaches a heat exchanger component including a film formed from a melted polymer that is one of polyetherimide, polyethersulfone, polysulfone and polyimide. Neither Boah nor Keneipp teaches employing polyetherimide, polyethersulfone, polysulfone and polyimide, and therefore the references together do not disclose, suggest or teach employing polyetherimide,

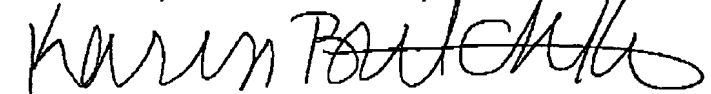
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polyethersulfone, polysulfone or polyimide as a film on a metal surface as claimed. Therefore, the combination of the references cannot disclose, suggest or teach the claimed invention.

Thus, claims 27-46 are in condition for allowance. No additional fees are seen to be required. If any additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C., for any additional fees or credit the account for any overpayment. Therefore, favorable reconsideration and allowance of this application is respectfully requested.

Respectfully Submitted,

CARLSON, GASKEY & OLDS, P.C.



Karin H. Butchko
Registration No. 45,864
400 West Maple Road, Suite 350
Birmingham, Michigan 48009
Telephone: (248) 988-8360
Facsimile: (248) 988-8363

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CERTIFICATE OF FACSIMILE

I hereby certify that this response is being facsimile transmitted to the United States Patent and Trademark Office, 571-273-8300 on June 1, 2006.



Amy M. Spaulding